

CLAIMS

What is claimed is:

1                   1.     A machine-implemented method for managing software licenses in a  
2     distributed computer network having a maximum number of said licenses for use  
3     with a licensed software program, comprising the steps of:

4                   counting users of said software program at a plurality of nodes of said  
5     network to obtain counts of software licenses in use by each node;

6                   transmitting said counts to a master node of said network;

7                   calculating a total number of software users on said network, said calculating  
8     step uses said counts;  
9

10                  evaluating a license allocation condition using said total number of users to  
11     obtain a license allocation result; and

12                  responding to said license allocation result if said license allocation condition  
13     is met.  
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1                   2.     The method of claim 1, further comprising the steps of:

2     performing a sanity scan on at least one subset of said nodes;

3     generating a scan result message, said transmitting step transmits said scan  
4     result message with at least one of said counts.

1                   3.     The method of claim 2, further comprising the steps of:

2 checking whether one of said scan result messages has been received from all  
3 of said nodes; and  
4 deallocating any licenses allocated to users of any of said nodes from which a  
5 scan result message has not been received.

1 4. The method of claim 1, wherein:  
2 said condition is an error condition,  
3 said responding step comprises the steps of:  
4 measuring a license lockout grace period; and  
5 initiating a license lockout if said grace period is exhausted.

1 5. The method of claim 1, wherein:  
2 said condition is an warning condition,  
3 said responding step comprises the step of:  
4 displaying a warning message.

1 6. The method of claim 1, wherein:  
2 said condition is an information condition,  
3 said responding step comprises the step of:  
4 displaying an information message.

1 7. The method of claim 1, wherein:

2 said condition is a threshold value,  
3 said evaluating step compares said total users to said threshold value,  
4 said condition is met if said total users is at least equal to said threshold.

5 8. The method of claim 1, wherein:

6 said evaluating step compares said total users to said maximum number of  
7 licenses,

8 said condition is met if said total users comprises at least a minimum  
9 percentage of said maximum number of licenses.

10 9. The method of claim 7, wherein said threshold is 110 percent of said  
11 maximum number of licenses.

12 10. The method of claim 7, wherein said threshold is 100 percent of said  
13 maximum number of licenses.

14 11. The method of claim 7, wherein said threshold is 90 percent of said  
15 maximum number of licenses.

16 12. The method of claim 7, wherein said threshold is at least 5 licenses  
17 greater than said maximum number of licenses.

18 13. The method of claim 7, wherein said threshold is at least equal to said

maximum number of licenses.

14. The method of claim 1, wherein said transmitting step transmits said counts asynchronously.

15. The method of claim 2, further comprising the step of:  
repeating said performing step periodically.

16. The method of claim 15, wherein said period is two minutes.

17. The method of claim 1, further comprising the step of:  
repeating said calculating and evaluating steps periodically.

18. The method of claim 17, wherein said period is five minutes.

19. An apparatus comprising:  
a memory, said memory adapted to store program code;  
a processor in communication with said memory, said program code capable of programming said processor to perform a method for managing software licenses in a distributed computer network having a maximum number of said licenses for use with a licensed software program, the method comprising the steps of:

7                    counting users of said software program at a plurality of nodes of said  
8                    network to obtain counts of software licenses in use by each node;  
9                    transmitting said counts to a master node of said network;  
10                   calculating a total number of software users on said network, said  
11                   calculating step uses said counts;  
12                   evaluating a license allocation condition using said total number of  
13                   users to obtain a license allocation result; and  
14                   responding to said license allocation result if said license allocation  
15                   condition is met.

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20                   20.    The apparatus of claim 19, wherein said method further comprises the  
21                   steps of:

22                   performing a sanity scan on at least one subset of said nodes;  
23                   generating a scan result message, said transmitting step transmits said scan  
24                   result message with at least one of said counts.  
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26  
27                   21.    The apparatus of claim 20, wherein said method further comprises the  
28                   steps of:

29                   checking whether one of said scan result messages has been received from all  
30                   of said nodes; and  
31                   deallocating any licenses allocated to users of any of said nodes from which a  
32                   scan result message has not been received.

1                   22.     The apparatus of claim 19, wherein:  
2                   said condition is an error condition,  
3                   said responding step of said method comprises the steps of:  
4                         measuring a license lockout grace period; and  
5                         initiating a license lockout if said grace period is exhausted.

1                   23.     The apparatus of claim 19, wherein:  
2                   said condition is a threshold value,  
3                   said evaluating step of said method compares said total users to said threshold  
4                   value,  
5                   said condition is met if said total users is at least equal to said threshold.

1                   24.     The apparatus of claim 20, wherein said method further comprises the  
2                   step of:  
3                         repeating said performing step periodically.

1                   25.     The apparatus of claim 19, wherein said method further comprises the  
2                   step of:  
3                         repeating said calculating and evaluating steps periodically.

1                   26.     An apparatus for managing software licenses in a distributed  
2 computer network having a maximum number of said licenses for use with a licensed  
3 software program, comprising:

4                         means for counting users of said software program at a plurality of nodes of  
5 said network to obtain counts of software licenses in use by each node;

6                         means for transmitting said counts to a master node of said network;

7                         means for calculating a total number of software users on said network, said  
8 calculating step uses said counts;

9                         means for evaluating a license allocation condition using said total number of  
10 users to obtain a license allocation result; and

11                         means for responding to said license allocation result if said license allocation  
12 condition is met.

13                   27.     The apparatus of claim 26, further comprising:

14                         means for performing a sanity scan on at least one subset of said nodes;

15                         means for generating a scan result message, said transmitting means transmits  
16 said scan result message with at least one of said counts.

17                   28.     The apparatus of claim 27, further comprising:

18                         means for checking whether one of said scan result messages has been  
19 received from all of said nodes; and

means for deallocating any licenses allocated to users of any of said nodes  
from which a scan result message has not been received.

29. The apparatus of claim 26, wherein:

said condition is an error condition,

said responding means comprises:

means for measuring a license lockout grace period; and

means for initiating a license lockout if said grace period is exhausted.

30. The apparatus of claim 26, wherein:

said condition is a threshold value,

said evaluating means compares said total users to said threshold value,

said condition is met if said total users is at least equal to said threshold.

31. The apparatus of claim 27, wherein said sanity scan is performed

periodically.

32. The apparatus of claim 26, wherein:

said total number of software users is calculated periodically,

said license allocation condition is evaluated periodically.

33. A processor readable storage medium, comprising:



processor readable program code embodied on said processor readable storage medium, said processor readable program code for programming a processor to perform a method for managing software licenses in a distributed computer network having a maximum number of said licenses for use with a licensed software program, the method comprising the steps of:

counting users of said software program at a plurality of nodes of said network to obtain counts of software licenses in use by each node;

transmitting said counts to a master node of said network;

calculating a total number of software users on said network, said calculating step uses said counts;

evaluating a license allocation condition using said total number of users to obtain a license allocation result; and

responding to said license allocation result if said license allocation condition is met.

34. The processor readable storage medium of claim 33, wherein said method further comprises the steps of:

performing a sanity scan on at least one subset of said nodes;

generating a scan result message, said transmitting step transmits said scan result message with at least one of said counts.

1           35.     The processor readable storage medium of claim 34, wherein said  
2 method further comprises the steps of:  
3           checking whether one of said scan result messages has been received from all  
4 of said nodes; and  
5           deallocating any licenses allocated to users of any of said nodes from which a  
6 scan result message has not been received.

1           36.     The processor readable storage medium of claim 33, wherein:  
2 said condition is an error condition,  
3 said responding step of said method comprises the steps of:  
4           measuring a license lockout grace period; and  
5           initiating a license lockout if said grace period is exhausted.

1           37.     The processor readable storage medium of claim 33, wherein:  
2 said condition is a threshold value,  
3 said evaluating step of said method compares said total users to said threshold  
4 value,  
5 said condition is met if said total users is at least equal to said threshold.

1           38.     The processor readable storage medium of claim 34, wherein said  
2 method further comprises the step of:  
3           repeating said performing step periodically.

